

State-Specific Background Oil and Gas Issues in California

ISSUE/TOPIC: EPA's Review of California's Class II Underground Injection Control (UIC) Program (see also EPA letter to CA State Agencies, dated March 9, 2015)

The state of California was delegated primary responsibility for implementing the Class II oil and gas underground injection control (UIC) program of the federal Safe Drinking Water Act (SDWA) in 1983. As a part of its oversight role, EPA audited the California Department of Conservation, Division of Oil, Gas and Geothermal Resources' (DOGGR) Class II UIC primacy program in 2011 and identified substantial implementation deficiencies. In 2012, EPA conducted a review of aquifer exemptions that raised questions about the alignment of injection wells with EPA-approved exemption boundaries.

On July 17 and December 22, 2014, EPA sent letters to DOGGR and the Water Resources Control Board (Water Board) highlighting concerns, providing direction, and requesting information about DOGGR's implementation of its UIC program for oil and gas-related Class II wells. EPA's letters responded to DOGGR's lack of progress in addressing these issues over the prior two years.

EPA has been meeting regularly with senior officials with the Department of Conservation, DOGGR, the Water Board and the Central Valley Regional Water Board to discuss the state's implementation of the Class II UIC program, the identification of Class II injection wells that may be injecting into non-exempt aquifers, the state's ongoing assessment of drinking water sources that may be impacted by improper injection, and to establish an effective process for reviewing and approving aquifer exemptions in California. EPA's December 22 letter directed the state to submit a Program Revision Plan by February 6, 2015.

EPA received a copy of the state's Program Revision Plan on February 6, 2015. After reviewing the state's plan, and based on further discussion with the state agencies, EPA issued a letter to the state on March 9, 2015 concurring on key aspects of the state's plan and setting out a schedule of required activities and deliverables, with target milestones and compliance deadlines to ensure that the state continues to make progress towards full compliance with the SDWA, and meets a February 15, 2017 compliance deadline for Class II wells currently injecting into non-exempt aquifers.

As the state implements the plan, EPA will continue our heightened oversight to ensure that the state's oil and gas UIC program meets federal requirements. This effort includes ensuring that wells which inject into non-exempt aquifers, including several hundred disposal wells (with approximately 70 disposal wells in the 11 aquifers historically treated as exempt), nearly two thousand enhanced oil recovery wells, and any cyclic steam wells requiring aquifer exemptions, are addressed as expeditiously as possible, with an immediate emphasis on the wells in aquifers with the highest water quality.

ISSUE/TOPIC: The State of California is developing regulations for oil/gas well stimulation activities, including hydraulic fracturing operations, as a result of SB4.

In September 2013, Governor Brown signed Senate Bill 4 into law, which required the State to start regulating hydraulic fracturing operations in January 2014, and to complete various assessments and adopt a comprehensive regulatory program by July 2015. Key requirements of SB 4 include: requiring a permit from the Division of Oil and Gas to conduct hydraulic fracturing; permit applications must specify the fluids to be used, a ground water monitoring plan, and a water management plan; copies of permits must be sent to neighboring property owners, and water well testing provided upon request; the Division must develop an internet website to facilitate public disclosure of well stimulation information; the State Water Resources Control Board must develop groundwater modeling criteria and implement a regional ground water monitoring program; and the Division must prepare an environmental impact report, consistent with the California Environmental Quality Act, addressing the practice of well stimulation in California.

ISSUE/TOPIC: California's Monterey Shale is a potentially significant source of oil that would likely require hydraulic fracturing technology to produce.

The Monterey Shale is a vast oil shale formation that stretches from Southern to Central California, covering an estimated 1,700+ square miles in size. Due in part to its deep, complex geology, the Monterey Shale has not been a significant source of oil production in the State to date. However, with newer drilling and other technological advances, there has been an increase in oil exploration targeting the Monterey Shale. In a 2011 Energy Information Agency report, it was suggested that the Monterey held 15 billion barrels of recoverable oil, however, a subsequent 2014 correction by EIA reduced the estimate to 0.6 billion barrels. An August 2014 study commissioned by BLM reported no successful production from the deep Monterey source rocks and questioned the EIA estimation methodology. The study's review of the two resource projections from deep source rocks in the Monterey Formation developed by EIA concluded that both these estimates are highly uncertain. Finally, California's SB4 requires the State Natural Resources Agency to complete an independent scientific study on well stimulation treatments in CA by July 2015. This study, which builds on the BLM commissioned work, will include its own assessment of the Monterey Shale.